with nuclear reactors; a recent set of experiments on gamma-ray transmission through a moderating material had an estimated iodine-131 source strength (total, per lab) of 33 mCi. At a distance of one meter, the exposure rate would be[3] 7.33 mR/hr. Students would have a maximum exposure estimate (2 hours) of 14 mrad, while for teaching fellows (6 hours) the corresponding figure would be 42 mrad. In addition, gamma rays should probably be upgraded significantly in their cancer-causing potential.[4]

The recommended maximum dose is 100 mrem/yr, for exposure in an educational environment to a student under 18 years of age.[5] Even with a reduction of a factor of 10 in source strength, it does not affect the conclusion that an unnecessary hazard exists. The use of iodine-131, with its potential volatility and absorption into the thyroid, is particularly hazardous, as has been stressed by von Hippel.[6] It has been reported[7] that there will be an investigation by the Department of Health and Human Services into the effect of this isotope, from all sources. Also, in medicine, recent preliminary work[8] has examined the relative cancer-causing effect of internal thyroid isotope exposure vis-à-vis external radiation therapy.[9]

In my opinion, iodine-131, especially in view of its ubiquity in the environment (as a reactor effluent and in radiotherapy) should certainly be discouraged in pedagogical situations such as the academic laboratory.

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6/84

Swiss hospitality

I was surprised to read of Daniel Spicer and C. H. Barrow's unfortunate experiences in Zurich (January, page 109).

letters

Visiting faculty and students whom I met during my two and a half years in Basel, Switzerland, said that they were uniformly well treated. In fact, upon my arrival as a postdoctoral student in 1971, a great deal of extra help was extended in settling my family.

When my wife and two-month-old daughter arrived a month after I did, they finally reached Basel late on the evening of 24 December after landing in Zurich. The director of the Physical Chemistry Institute in Basel, Edgar Heilbronner, personally took charge of arranging transportation from Zurich to Basel when he found out that I was away at the train station awaiting their arrival due to faulty airline information.

He located me in the train station, collected our scattered luggage and drove us to the apartment. I am sure that he did not return home to his family until after 11:00 pm, and yet he also left a gift for the baby. With no knowledge of German at the time, my wife would have had a much worse time without such help.

This was only one of many instances where I saw personal, financial and professional help freely extended to visiting scientists. (It was sometimes shabbily misused by vacationing faculty from the US who were theoretically on sabbatical.)

I can only assume that due to some administrative or bureaucratic problems no single person felt responsible for Spicer and Barrow. From J. O. Stenflo's response, I believe such problems are unlikely to occur again, and visiting scientists should look forward to productive and enjoyable stays in Switzerland.

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Raman identified

I was happy to see the fine layout and the beautiful set of photographs assembled by your staff to illustrate my recent feature article (February, page 38). However, I would like to correct a few editorial oversights, especially in the photo captions.

The photo on page 42 is a historically exciting record that includes the Indian Nobel laureate, C. V. Raman, the discoverer of the Raman effect. He appears at the extreme left in the photo (wearing a turban) in a characteristically ebullient pose and, unhappily, he was not identified in the caption. Also, I was pained by the reference (in the caption on page 39) to the Royal Bombay Yacht Club as "venerable." This is hardly the term to describe a coterie that prided itself on not permitting any Indian ever to cross its threshold except in a menial capacity. I was also surprised to see a few last-minute textual changes *after* my review of the edited manuscript, which have distorted some nuances and, in one instance, the entire physics meaning and context.

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The editors of PHYSICS TODAY *are chagrined that C. V. Raman was unrecognized beneath his turban. The photograph was found in the Embassy of India in Washington, and even the science attaché there could not identify Raman. Also found in the embassy library was a picture of the Royal Bombay Yacht Club, which is described in books on Indian architecture as a notable example of Victorian Gothic. The term "venerable" applies to the building, considering its age and distinctive design, not to the club members or their precepts and practices. As for the changes in the text, it is indeed customary for an author to review and approve the edited manuscript, and Raghavan did so—although, in all fairness, he, like other writers of* PHYSICS TODAY *articles, did not see the final layout or galleys of the feature, nor is it usual for an author to do so at magazines, as distinguished from journals.* —IG

Gyro omissions

In re-reading the text of Barbara Levi's excellent article in May (page 20) on the relativity gyroscope experiment, I note an omission for which I am responsible. In the discussion of the analogy between "gravitomagnetism" and electromagnetism, reference is made to the work of Wilkins, Schwinger and Thorne, but I should also have drawn Levi's attention to the earlier work of R. F. O'Connell, B. M. Barker and their colleagues at Louisiana State University, who, in papers from 1970 onwards, applied the analogy of spin–orbit and spin–spin coupling to investigate higher-order terms affecting the gyroscope experiment as well as a variety of astrophysical phenomena. An overview of much of this work may be found in R. F. O'Connell, "Spin, Rotation and C, P, and T Effects in the Gravitational Interaction and Related Experiments" in B. Bertotti (ed.), *Experimental Gravitation* (Academic Press, 1974) page 496.

May I take this opportunity to amend some references to the institutional affiliations. James Lockhart, though he continues his active association with the experiment and is visiting senior research associate at Stanford, is now associate professor of physics at San Francisco State University. Richard Vassar, formerly of T.R.W., is now with Lockheed; Thierry Duhamel is now with the Matra Company, Toulouse, France, while my good friend and colleague John Breakwell remains very much a member of the Stanford team.

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